

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows:

1. (Original) A process for the preparation of perfluoropolyethers of formula:



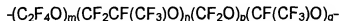
wherein:

T is -F, C₁-C₃ perfluoroalkyl, -CH₂OH, -CH₂NH₂, -CHO;

T' = T with the proviso that when T is F or C₁-C₃ perfluoroalkyl, T' is -CH₂OH, -CH₂NH₂, -CHO;

X, X', equal to or different from each other, are -F or -CF₃;

R_f is selected from:



wherein the sum n+m+p+q ranges from 2 to 200,

the (p+q)/(m+n+p+q) ratio is lower than or equal to 10:100, preferably comprised between 0.5:100 and 4:100,

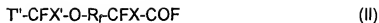
the n/m ratio ranges from 0.2 to 6, preferably from 0.5 to 3; m, n, p, q are equal to or different from each other and when m, n range from 1 to 100, preferably from 1 to 80, then p, q range from 0 to 80, preferably from 0 to 50; the units with n, m, p, q indexes being statistically distributed along the chain;

-(CF₂CF₂CF₂O)_r- wherein r ranges from 2 to 200,

-(CF(CF₃)CF₂O)_s- wherein s ranges from 2 to 200,

comprising the following steps:

A) preparation of perfluoropolyethers of formula



wherein T'' is -COF , -F , $\text{C}_1\text{-C}_3$ perfluoroalkyl, X , X' , R_f are as above, by reduction of the corresponding perfluoropolyethers containing peroxidic bonds, with gaseous hydrogen in the presence of a catalyst formed by metals of the VIII group supported on metal fluorides, at a temperature from 20°C to 140°C , and at a pressure between 1 and 50 atm;

B) treatment of the formula (II) compounds with inorganic chlorides, preferably CaCl_2 , by heating at a temperature in the range $100^\circ\text{-}150^\circ\text{C}$ obtaining perfluoropolyethers having acylchloride -COCl end groups;

B') treatment of the formula (II) acylfluoride or of the corresponding ester or of the corresponding acylchloride with gaseous ammonia, obtaining the corresponding amide, subsequently dehydrated preferably with P_2O_5 , at a temperature in the range $150^\circ\text{-}200^\circ\text{C}$, preferably at 170°C , with the obtainment of perfluoropolyethers with nitrile -CN end groups;

C) reduction of the perfluoropolyethers with acylchloride end groups, obtained in step B), or with nitrile end groups, obtained in step B'), of formula (IIa):

$T'''\text{-CFX}'\text{-O-R}_f\text{-CFX-T}'''$ (IIa) wherein:

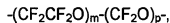
$T''' = \text{-F}$, $\text{C}_1\text{-C}_3$ perfluoroalkyl, -CN , -COCl ,

$T'''' = T'''$ with the proviso that when T''' is -F or $\text{C}_1\text{-C}_3$ perfluoroalkyl, T'''' is -CN , -COCl ,

with gaseous hydrogen in the presence of a catalyst constituted by metals of the VIII group selected from Pd, Rh, Ru, supported on solid metal fluorides, at a temperature

from 20°C to 150°C, preferably from 80°C to 120°C and at a pressure between 1 and 50 atm, preferably between 1 and 10 atm, optionally in the presence of inert solvents.

2. (Original) A process according to claim 1, wherein R_f is selected from the following structures:



3. (Currently Amended) A process according to claim 1~~claims 1-2~~, wherein the metal fluoride of step C) is selected from the group formed by CaF_2 , BaF_2 , MgF_2 , AlF_3 , preferably CaF_2 .

4. (Currently Amended) A process according to ~~claims 1-3~~claim 1, wherein the concentration of the VIII group metal on the metal fluoride of the catalyst of step C) is comprised between 0.1% and 10% with respect to the total weight of the catalyst, preferably between 1% and 2% by weight.